



June 18, 2013

Mr. Rob Lathrop,
Atlas Resin Proppants, LLC
N7530 County Road P
Taylor, WI 53704

Subject: Proposal Submittal
Proposal No. 4365 Revision 2

Dear Mr. Lathrop;

Airtech Environmental Services Inc. is pleased to provide the following revised proposal to perform an air emissions test program at the Atlas Resin Proppants, LLC (Atlas) facility located in Taylor, Wisconsin. The proposal is being revised to accommodate comments received by the WDNR. The specific objectives of the test program are as follows:

- Determine the Destruction Efficiency (DE) of two (2) Recuperative Thermal Oxidizers (RTOs) installed to treat the Solvent Laden Air (SLA) generated by the manufacture of resin-coated industrial sand.
- Determine the Capture Efficiency (CE) of two (2) bulk material mixing towers.
- Determine the emission rates of filterable particulate matter (PM), condensable particulate matter (CPM), oxides of nitrogen (NO_x), phenol, formaldehyde and ammonia as well as the opacity of emissions from each RTO exhaust.
- Determine the emission rate of phenol at the RTO inlet test locations during the CE testing.

Testing will be conducted to meet the requirements of Atlas and the Wisconsin Department of Natural Resources (WDNR).

Methodology

To convert the pollutant concentrations described below to mass emission rates, the volumetric gas flow rate through each test location will be determined using EPA Methods 1, 2, 3, and 4. Flow rates will be determined concurrent with each test run.

Destruction Efficiency Methodology

The DE of the oxidizer system will be calculated by measuring the total hydrocarbons (THC) simultaneously at the inlet and outlet of each unit. EPA Method 25A will be used to determine the THC concentration at each test location. Because methane is included in Method 25A and is an exempt VOC, the methane concentration at each test location will be determined using EPA Method 18. The methane emission rate will be subtracted from the THC emission rate to give a total non-methane hydrocarbon (TNMHC) emission rate.

Calculation of DE will be based on the TNMHC emission rates from the inlet and outlet of the unit. Analysis for methane will be performed on-site using gas chromatography.

Particulate Methodology

EPA Method 5 combined with EPA Method 202 will be used to determine the PM and CPM concentrations at each RTO Exhaust. In EPA Methods 5/202, a sample of the gas stream will be withdrawn isokinetically from the stack and the filterable PM will collect in a glass lined probe and on a glass fiber filter. The condensable PM will pass through the probe and filter and collect in a dry impinger system. With this approach the total PM will be considered to be the sum of the filterable PM and the CPM.

Opacity Methodology

The procedures found in EPA Method 9 will be used to visually determine the opacity of emissions from each test location. In Method 9 the opacity of emissions are determined by a certified observer. Readings are taken at fifteen (15) second intervals for the duration of each test run.

NO_x Methodology

EPA Method 7E will be used to determine the NO_x concentration at each RTO exhaust. In Method 7E, a sample of the exhaust gas will be withdrawn from the source at a constant rate through a heated, stainless steel probe, a heated glass fiber filter and a heated Teflon sample line. All heated components will be maintained at a temperature of at least 250°F to prevent the condensation of moisture. The sample gas stream will then be routed through a gas conditioning system designed to unobtrusively remove the moisture before the sample gas is vented to the NO_x analyzer. The analyzer will be calibrated with EPA Protocol 1 mixtures of NO_x in a balance of nitrogen.

Formaldehyde and Phenol Methodology

Formaldehyde and phenol sampling will be conducted using NCASI Method CI/WP-98.01. A sample of the stack gas will be withdrawn from the source and passed through a series of chilled impingers containing HPLC grade water. One (1) aliquot of the impinger contents will be returned to Airtech and analyzed for formaldehyde. Another aliquot of the impinger contents will be sent to Enthalpy Analytical and analyzed for phenol.

Ammonia Methodology

Conditional Test Method 027 (CTM-027) will be used to determine the ammonia concentration at the test locations. A sample of the gas stream will be withdrawn from the stack and through a series of glass impingers containing a dilute sulfuric acid solution. The contents of the impingers will be recovered and analyzed using ion chromatography (IC).

CE Methodology

EPA Alternative Method 012 (ALT-012), EPA Method 320 will be referenced in determining the CE of each Bulk Material mixing tower. ALT-012 method involves the use a tracer gas that will be analyzed by EPA Method 320 Fourier Transform Infrared (FTIR)



The tracer gas Method ALT-012 is performed by injecting a known concentration of a gas not otherwise present in the gas stream into the duct at a known flow rate. The tracer gas is expected to be sulfur hexafluoride (SF₆). The flow rate of the tracer gas will be metered simultaneously into several different points along the mixing tower using a mass flow meter. The tracer gas concentration is then measured downstream of the injection point which is expected to be at the RTO inlet.

The tracer gas concentration at RTO inlet will be determined using EPA Method 320. A sample of the gas stream will be continuously withdrawn from the test location and analyzed using a continuous FTIR gas analysis system. The sample gas will be withdrawn from the RTO Inlet at a constant rate through a stainless steel probe, a glass fiber filter and a Teflon sample line. The probe, filter and sample line will be operated at a temperature of at least 250 °F to prevent the condensation of moisture. The sample gas will then pass to the FTIR spectrometer gas cell. Results from the analyzer will be determined on a “wet” volume basis.

The CE of the mixing tower will be calculated from the measured tracer gas emission rate at the RTO inlet to the actual tracer gas concentration and the flow rate of the tracer gas injected into the mixing tower.

Capture efficiency test precision will be demonstrated using the data quality objective (DQO) or lower confidence limits (LCL) approach. If satisfying the DQO approach, sufficient test runs need to be performed to demonstrate that 95 percent of the time when DQO is met, the capture efficiency is within five (5) percent of the average measured value. The lower confidence limit approach is generally used by sources that are well above their capture efficiency requirement. With the LCL approach less precision (fewer test runs) is acceptable. The lower confidence limit approach requires that the LCL be greater than the minimum capture efficiency requirement.

With either approach a minimum of three (3), sixty-minute test runs will be performed. Additional runs may be required to satisfy DQO or LCL precision requirements.

Parameters

The following gas parameters will be determined at each test location during each test run, except where noted:

- gas velocity
- duct temperature
- moisture concentration
- oxygen concentration
- carbon dioxide concentration
- particulate matter concentration (RTO Exhausts)
- nitrogen oxides concentration (RTO Exhausts)
- opacity of emissions (RTO Exhausts)
- ammonia concentration (RTO Exhausts)
- methane concentration
- total hydrocarbon concentration
- condensable particulate matter (RTO Exhausts)
- formaldehyde concentration (RTO Exhausts)
- phenol concentration

Test Schedule

Testing has yet to be scheduled, but will take place before June 28, 2013 and will be performed utilizing the following schedule of events and personnel:

Day	Location	Activity	Test Methods	No. Runs	Duration
1	Taylor, Wisconsin	Travel to job site Set up equipment			
2	RTO 1 In and Out RTO 1 Outlet	Perform DE testing Perform testing	1, 2, 3, 4, 18 and 25A 1, 2, 3, 4, 7E, CTM- 027 and CI/WP-98.01	3 3	60 min 60 min
3	RTO 1 Outlet Mixing Tower 1	Perform testing CE Testing	1, 2, 3, 4, 5/202 and 9 1, 2, 3, 4, ALT-012, CI/WP-98.01 and 320	3 3	60 min 60 min
4	RTO 2 In and Out RTO 2 Outlet	Perform DE testing Perform testing	1, 2, 3, 4, 18 and 25A 1, 2, 3, 4, 7E, CTM- 027 and CI/WP-98.01	3 3	60 min 60 min
5	RTO 2 Outlet Mixing Tower 2	Perform testing CE Testing Breakdown test equipment and return travel	1, 2, 3, 4, 5/202 and 9 1, 2, 3, 4, ALT-012, CI/WP-98.01 and 320	3 3	60 min 60 min

Personnel Requirements

Airtech will utilize the following personnel to perform the required work:

One (1) S2 level Supervisor

One (1) T1 level Technician

One (1) T2 level Technician

Three (3) T3 level Technicians



ASTM D7036 - 04(2011)

All applicable Airtech field personnel on-site for this test program will be compliant with ASTM D7036 - 04(2011) “Standard Practice for Competence of Air Emissions Testing Bodies” for all tests performed, as applicable.

Airtech actively participates in the Source Evaluation Society (SES) and Qualified Stack Test Individual (QSTI) program under the American Society for Testing and Materials (ASTM) Standard D7036 and has achieved interim accreditation through the Stack Testing Accreditation Council (STAC). Detailed resumes of key personnel for this test program are included in the Appendix of this proposal. The following table summarizes the experience level of key personnel that may be involved with this project:

Personnel	Position	Years of Field Experience
Jeff Kaput, Q.S.T.I.	Office Manager, Project Manager	27
Kurt Wepprecht, Q.S.T.I.	Project Manager, Field Test Leader	21
James Christ, Q.S.T.I.	Project Manager, Laboratory Manager	17
Matt Libman, Q.S.T.I.	Project Manager, Field Test Leader	6
Brandon Check, Q.S.T.I.	Project Manager, Field Test Leader	6
Chet Gutwein, E.I.T	Project Manager, Field Technician	5
Michael Hess, Q.S.T.I.	Field Test Leader, Field Technician	5
Timothy Giffin, Q.S.T.I.	Field Test Leader, Field Technician	4
Robert Garrity, Q.S.T.I.	Field Test Leader, Field Technician	15
Brendan Lawlor, Q.S.T.I.	Field Test Leader, Field Technician	4
Blu Kaput, Q.S.T.I.	Field Test Leader, Field Technician	4
Eric Abens, Q.S.T.I	Field Test Leader, Field Technician	4



Responsibilities

Airtech Responsibilities

1. All testing in the field and laboratory.
2. Preparation and submittal of the test protocol.
3. All necessary test equipment and manpower to perform the required testing.
4. All travel and lodging expenses in the field.
5. Four (4) copies of each final report.

Atlas Responsibilities

1. Test ports as per Airtech specifications.
2. Safe access to the test ports including any scaffolding or powered man-lifts that will be required.
3. Electric power (Two (2) 110V, 15 amp outlet near each test location and connection of the Airtech test trailer to 220V, single phase power)
4. Collection of process data as required

Price Schedule

All testing will be performed in accordance with the attached terms and conditions and fee schedule. Any delays or additional testing will be billed per the fee schedule according to the terms and conditions.

The price to perform the test program is\$46,300

The additional price to perform phenol testing at the RTO inlets is\$4,000

If you have any questions regarding this proposal feel free to call me at (630) 860-4740. We look forward to working with you again.

Sincerely;

Airtech Environmental Services Inc.



Kurt Wepprecht, QSTI

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Standard Terms and Conditions of Sale
for
Airtech Environmental Services Inc.

General

Any and all services provided by Airtech Environmental Services Inc. (Airtech) are in accordance with the following Standard Terms and Conditions of Sale and apply to any client of Airtech. The Client shall be deemed as the party who issues the purchase order (the purchaser). These Terms and Conditions of Sale are in effect upon receipt. These Terms and Conditions of Sale supersede all previous agreements. Any changes made to this agreement must be made in writing and signed by an officer of Airtech. This agreement is in accordance with the Airtech Fee Schedule. The term 'standard rates' refers to the Airtech Fee Schedule and the specific manpower and or equipment specified in the proposal. Prices listed in an Airtech proposal remain in effect for 60 days from the proposal date unless otherwise indicated in the proposal. Airtech reserves the right to invoice 90% of the total project cost upon completion of the field portion of the project. All projects will be considered complete and invoiced in full upon the presentation of the final report.

Additional Fee Conditions

All Airtech invoices are due within 30 days of the date of the invoice. A charge of 1.5% per month will be added to all unpaid amounts after 30 days. One and one half the standard rates will be billed for any work exceeding 8 hours per day or 40 hours in a Monday through Friday, five day work-week. One and one half the standard rates will also be billed for any work performed on Saturday or Sunday, or any work performed in a location where the temperature is above 120°F or below 0°F. Work performed on holidays will be billed at twice the standard rates. All travel time will be billed at the standard rates. Any work performed or costs incurred in addition to that which is stated in the Airtech proposal that is a direct result of a postponement or cancellation, will be charged in accordance with the Airtech Fee Schedule. Equipment charges are billed on a daily basis unless specifically noted otherwise in the proposal. Rates for equipment are based on calendar days beginning and ending at midnight central standard time. Items rented will be charged the daily rate for each calendar day the item is not in the possession of Airtech, unless otherwise specified in the proposal.

Delays

The Client will be charged standard rates for any delays not caused by Airtech. These charges include any additional labor time in excess of the proposed amount; including, but not limited to time on the job, travel, packing, planning and stand-by time. Any expenses incurred by Airtech as a result of said delays, including, but not limited to travel, lodging, and per diem will be billed to the Client. Any delays due to the fault of Airtech will not be charged to the Client. Delays due to inclement weather such as but not limited to thunderstorms, high winds, temperatures over 110°F, temperatures under 0°F, ice or snow storms will be billed at one half the standard rates and expenses will be billed per the Airtech Fee Schedule.

Safety

The Airtech test leader will possess the authority to discontinue or postpone testing due to unsafe conditions regardless of the cause. The test leader will use his or her best discretion to determine when conditions are safe and work may resume. Should exceptionally long hours or strenuous labor be performed the test leader may declare that the work resume on the following day if he or she feels that fatigue may endanger the work crew, jeopardize work integrity, or risk damage to property.

Liability and Insurance

Airtech shall be considered an independent contractor, and under no circumstance will any Airtech employee be considered an employee of the Client. Client agrees to indemnify Airtech for all claims arising out of Airtech's work.

Airtech and its officers, directors, agents and employees shall not be held liable for any incidental or consequential damages of client or any other parties arising out of or in connection with the work performed by Airtech. Any purchases or process adjustments made by Client or other parties are at the sole discretion of the Client or other parties. Airtech is not responsible for any fines or judgments against the Client or any other parties as a result of any emissions testing results provided by Airtech.

Airtech will provide \$2,000,000 combined aggregate bodily injury and property damage insurance while performing work for the Client. Should additional coverage be required, the cost plus ten percent (10%) will be billed to the client. A certificate of insurance will be provided upon request.

This agreement shall in all respects be governed by the laws of the State of Illinois. In the event that any action or law suit is instituted by Client to enforce the terms and conditions of this agreement or to dispute the work performed by Airtech, Client must file the lawsuit in the Circuit Court of Cook County, Illinois. The prevailing party in such action shall be entitled to its reasonable attorney fees, costs, and expenses.



Airtech Environmental Services Inc.

Fee Schedule

Personnel

Hourly

Project Supervisors and Consulting	
Level I	\$144.00
Level II	\$116.00
Level III	\$94.00
Level IV	\$83.00
Test and CEMS Field Service Technicians	
Level I	\$70.00
Level II	\$60.00
Level III	\$50.00

Daily Equipment Rates

Days 1-7 Days 8+

Carbon Monoxide Analyzer	\$70.00	\$48.00
O2 or CO2 Analyzer	\$58.00	\$40.00
Nitrogen Oxides Analyzer	\$70.00	\$48.00
Sulfur Dioxide Analyzer	\$70.00	\$48.00
Total Hydrocarbon Analyzer	\$80.00	\$53.00
Dilution CEMS Sampling System	\$40.00	\$28.00
Extractive CEMS Sampling System	\$45.00	\$32.00
Data Acquisition System	\$45.00	\$32.00
Heated Sample Lines (per 100 feet)	\$30.00	\$21.00
EPA Protocol Calibration Gases	\$17.00	\$12.00
Support Gases	\$8.00	\$5.00
Gas or Ion Chromatograph	\$145.00	\$102.00
FTIR	\$400.00	\$285.00
Ohio Lumex Hg Analyzer	\$325.00	\$230.00
Method 30B Sample Train	\$80.00	\$54.00
Isokinetic Sample Train	\$100.00	\$67.00
Flow and Moisture (Non-Iso) Sample Train	\$53.00	\$38.00
3-D Probe and Console	\$40.00	\$28.00
PM2.5 or PM10 Head	\$35.00	\$25.00

Living and Travel Expenses

Mileage Auto	\$0.65/mile
Mileage Trailer	\$0.26/mile
Mileage Van	\$1.15/mile
Hotel, Air Fare, Auto Rental, Taxi, and Freight	Cost + 10%
Per Diem	\$60.00/day

Miscellaneous Expenses

Outside Laboratory	Cost + 15%
Outside Equipment Rental	Cost + 10%
Expendable Items and Supplies	Cost + 10%

10/19/2012



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